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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,847	02/12/2002	Yong-Seo Koo	CHANG-3387	1519

5409 7590 08/13/2003

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EXAMINER

HARRIS, STEPHANIE N

ART UNIT PAPER NUMBER

3636

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,847

Applicant(s)

KOO, YONG-SEO

Examiner

Stephanie N. Harris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 5, 10-18 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Claims 5, 10-18 and 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 5.

Applicant's election with traverse of Species I in Paper No. 5 is acknowledged. The traversal is on the ground(s) that *"...the search and examination of the entire application can be made without serious burden..."*. This is not found persuasive because the applicant has specifically claimed multiple and detailed embodiments of the claimed invention which in themselves require specific searches, i.e. seat and backrest which are not integrally formed together and can be moved independent of one another. The applicant however, may positively state that the embodiments are "obvious variances of one another" and the entire application would be searched at that time. The applicant is reminded that if one embodiment is found by the examiner then all embodiments would be rejected as obvious variances of one another.

The requirement is still deemed proper and is therefore made FINAL.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "3" and "31" have both been used to designate a lumbar plate on page 6 of the specification. A proposed drawing correction or corrected

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drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 1 is objected to because of the following informalities: the phrase "...comprised a..." appears to be a grammatical error. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitation "connecting tube" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ligon, Sr. et al. (USPN 5518294) in view of Knoblock (USPN 5806930).

Regarding claim 1, Ligon discloses a lumbar support unit that is attached to a lower portion of a backrest, which is automatically protruded forwardly when the seat back member is tilted rearwardly (Abstract). The lumbar support unit is resiliently restored to its normal position when the seat back member is erected (Abstract, Co. 7, lines 5-52). Ligon discloses that the lumbar support may be used in office chairs (Abstract).

Regarding claim 2, the lumbar support unit comprises a lumbar plate (62) which is hingedly connected at one end to the backrest and is connected at the other end to the backrest to be slid up and down and adapted to be protruded forwardly (Col. 2, lines 53-63; Col. 5, lines 4-16) as seen in Figures 4 and 9 .

An actuator connector (110) is connected at one end to the lumbar plate and is connected at the other end to the chair frame so that the actuating connector causes the lumbar plate to be protruded forwardly when the seat back member is tilted rearwardly and is resiliently restored to its normal position when the seat back member is erected (Col. 7, line 65- Col. 8, line 8).

Regarding claim 4, one end of the connecting wire, which is connected to the lumbar plate, is exposed from the one end of the connecting tube by a certain distance in its normal, and the exposed distance of the connecting wire is equal to or longer than a distance by which the actuating plate moves downwardly (Col. 8, lines 4-6).

Ligon shows all of the teachings of the claimed invention but fails to show the use of a seat and a backrest which are integrally formed with each other, that can be tilted rearwardly and restored to its normal position.

Knoblock discloses an office chair with a seat and a backrest which are integrally formed with each other, that can be tilted rearwardly and restored to a normal position (Abstract) as seen in Figure 2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use an office chair with a seat and a backrest which are integrally formed with each other, that can be tilted rearwardly and restored to a normal position as taught by Knoblock, since Ligon discloses that the lumbar support can be used in office chairs and such a modification is an obvious matter of design choice.

Claims 3, 6, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ligon, Sr. et al. (USPN 5518294) in view of Knoblock (USPN 5806930) in further view of Cosentino (USPN 6430801).

Ligon and Knoblock have been described above. Regarding claim 3, Knoblock discloses a chair frame that is comprised of a fixed frame (63) having a fixed plate (67). A movable frame (76) is hingedly connected to the fixed frame and has an actuating plate (83) as seen in Figures 3 and 5. The actuator connector (110), as disclosed by Ligon, is comprised of a connecting wire. The actuator connector which is connected at one end to the lumbar plate and can be connected at the other end to the the fixed plate of chair frame, as disclosed by Knoblock.

Ligon in view of Knoblock shows all of the teachings of the claimed invention but fails to show the use of a connecting tube to be used in conjunction with the connecting wire. Cosentino discloses a connecting tube (28) into which a connecting wire (26) is extended, and which can be connected at one end to the backrest such that one end of the connecting tube is positioned at a location downwardly spaced from an end of the connecting wire and the other end can be connected to an actuating plate of a movable frame. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the connecting wire of Ligon in view of Knoblock with the connecting tube, as shown by Cosentino, in order to additional protection for the connecting wire.

Additionally, Ligon in view of Knoblock fails to show the use of a bracket with rollers to assist with the movement of the lumbar support.

Regarding claim 6, Cosentino discloses a lumbar support that is provided at its upper end with an angled bracket extended toward the backrest part and supporting a shaft, both ends of which are provided with rollers moving up and down for the sake of smooth motion of the lumbar plate (Col. 4, line 62- Col.5, line 5). The backrest plate is provided with a rail plate at a position corresponding to the lumbar support unit (Col. 4, line 62- Col.5, line 5). The rail plate can be provided at both sides with guide rails that extend downwardly. The rollers can be slid up and down along the guide rails of the rail plate (Col. 4, line 62- Col.5, line 5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a bracket with rollers to assist with the movement of the

lumbar support as taught by Cosentino, since Cosentino discloses that the lumbar support can be used with a bracket with rollers to assist with the movement of the lumbar support and such a modification is an obvious matter of design choice.

Regarding claim 7, Ligon discloses that the connecting wire is provided at its ends with wire control means for controlling lengths of the connecting wire, which can be exposed from the ends of connecting tubes (Col. 4, lines 34-45).

Regarding claim 8, the wire control means can be comprised of a bolt integrally coupled to the end of the connecting wire, and a fastening nut disposed on the fixed plate and threaded with a male threaded portion of the connecting wire to control the exposed length of the connecting wire by its own rotation (Col. 8, lines 4-6).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ligon, Sr. et al. (USPN 5518294) in view of Knoblock (USPN 5806930) in further view of Dal Monte (USPN 5664841).

Ligon, Sr. et al. in view of Knoblock has been described above. Ligon, Sr. et al. in view of Knoblock shows all of the teachings of the claimed invention but fails to show the use of an actuating connector with male threaded portions at one end and two nuts for fastening the male threaded portion.

Regarding claim 9, Dal Monte discloses one end of a connecting tube (33) of an actuating connector (32) is formed at its outer surfaces with a male threaded portion (36) as seen in Figure 3. Each of the threaded portions of the connecting tube is

threaded into a nut for fastening the male threaded portion (Col. 5, lines 13-33) as seen in Figure 3.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the actuating connector of Ligon, Sr. et al. in view of Knoblock with the male threaded portions and two nuts, as shown by Dal Monte, in order to provide a secure connection means for the actuating connector.

Dal Monte discloses the claimed invention except for the use of two nuts. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use two nuts, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ligon, Sr. et al. (USPN 5518294) in view of Knoblock (USPN 5806930) in further view of Cosentino (USPN 6430801) and in further view of Dal Monte (USPN 5664841).

Ligon, Sr. et al. in view of Knoblock and in further view of Cosentino has been described above. Ligon, Sr. et al. in view of Knoblock and in further view of Cosentino shows all of the teachings of the claimed invention but fails to show the use of an actuating connector with male threaded portions at one end and two nuts for fastening the male threaded portion.

Regarding claim 19, Dal Monte discloses one end of a connecting tube (33) of an actuating connector (32) is formed at its outer surfaces with a male threaded portion

(36) as seen in Figure 3. Each of the threaded portions of the connecting tube is threaded into a nut for fastening the male threaded portion (Col. 5, lines 13-33) as seen in Figure 3.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the actuating connector of Ligon, Sr. et al. in view of Knoblock and in further view of Cosentino with the male threaded portions and two nuts, as shown by Dal Monte, in order to provide a secure connection means for the actuating connector.

Dal Monte discloses the claimed invention except for the use of two nuts. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use two nuts, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to lumbar supports: U.S. Pat. No. 3794382 to Bloomfield et al., U.S. Pat. No. 5624158 to Adat et al., U.S. Pat. No. 4452485 to Schuster, U.S. Pat. No. 4354709 to Schuster, U.S. Pat. No. 5641205 to Schmidt, U.S. Pat. No. 5735574 to Serber, US005984407A to Ligon, Sr. et al., US006425637B1 to Peterson, US006322147B1 to Leib, US006520580B1 to Hong, US006045185A to Ligon, Sr. et al., US005474358A to Maeyaert, US005902011A to Hand et al., US006045185A to Ligon, Sr. et al.,

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US006152532A to Cosentino, US006296308B1 to Consentino et al., US005944382A to Ambasz, US006536840B1 to Schuster, Sr. et al., US005318346A to Roossien et al., and US006227618B1 to Ligon, Sr. et al.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephanie N. Harris whose telephone number is 703-305-1838. The examiner can normally be reached on Monday-Friday from 9am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo, can be reached on (703) 308-0827. The fax phone number for the organization where this application or proceeding is assigned is 703-305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

SNH

August 10, 2003


Peter M. Cuomo
Supervisory Patent Examiner
Technology Center 3600